MH9ZD1492

Agency for Health Care Policy and Research

Center for General Health Services Intramural Research

National Medical Expenditure Survey

Health Care Coverage: Findings From the Survey of American Indians and Alaska Natives

Research Findings 8

MH92D1492

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Health Care Policy and Research

The following is the recommended bibliographic citation for this publication:

Cunningham, P., and C. Schur. (1991, July). *Health care coverage: Findings from the Survey of American Indians and Alaska Natives* (AHCPR Pub. No. 91-0027). National Medical Expenditure Survey Research Findings 8, Agency for Health Care Policy and Research. Rockville, MD: Public Health Service.

Abstract

This report presents estimates from the 1987 National Medical Expenditure Survey (NMES) of private and public health insurance coverage of American Indians and Alaska Natives eligible for services provided or supported by the Indian Health Service (IHS) and living on or near reservations. Data from the first round of this Survey of American Indians and Alaska Natives (SAIAN) show that 45 percent had health insurance in addition to IHS coverage, including 28 percent with private insurance and 16.9 percent with public coverage. Data from round 1 of the NMES Household Survey are used for comparison between the SAIAN population and the total U.S. population. These findings show the SAIAN population with much lower rates of private insurance than the total U.S. population, but slightly higher rates of public coverage other than IHS. Rates of private health insurance coverage among the SAIAN population were considerably higher for those employed full-time and for those who reported their usual source of care as somewhere other than an IHS or tribal facility. Rates of public coverage were particularly high for the elderly, the widowed and unemployed, and those in fair or poor health. For working adults and their families, rates of employment-related private health insurance are consistently lower in the SAIAN population than in the U.S. population across similar categories of employment status, firm size, and hourly wage of the working adult.

July 1991

AHCPR Pub. No. 91-0027

Background

This report from the Division of Medical Expenditure Studies presents results from the 1987 National Medical Expenditure Survey (NMES). The survey provides extensive information on health expenditures by or on behalf of American families and individuals, the financing of these expenditures, and each person's use of services. The National Medical Expenditure Survey is a research project of the Center for General Health Services Intramural Research, Agency for Health Care Policy and Research.

Since the 1970s the intramural research program has given particular emphasis to studies of the use and financing of health services. The first series of studies (NMES I) employed data collected in the 1977 National Medical Care Expenditure Survey. These studies produced information on a broad range of issues such as the number and characteristics of the uninsured and the underinsured, the tax implications of excluding employer-paid premiums for health insurance from employee income, and the differences among socioeconomic and demographic groups with respect to the use of health services.

A new series of studies (NMES II) was initiated in the 1980s. These studies also involve a major data collection effort—the 1987 National Medical Expenditure Survey. Like its predecessor, NMES II provides information about the noninstitutionalized population. In addition and in contrast to the earlier studies, NMES II also provides extensive information on the population residing in or admitted to nursing homes and facilities for the mentally retarded.

The NMES II Household Survey is based on a national probability sample of the civilian, noninstitutionalized population living in the community. The sample is designed to provide a larger representation of population groups of special policy interest to the Federal Government than would have been obtained from a random sample. These groups include poor and low income families, the elderly, the functionally impaired, and black and Hispanic minorities. A Survey of American Indians and Alaska Natives (SAIAN) includes a separate sample of American Indians and Alaska Natives living on or near Federal reservations and eligible to receive care provided or supported by the Indian Health Service. The Institutional Population Component includes a sample of persons residing in or admitted to nursing and personal care homes and facilities for the mentally retarded during 1987. A separate Medicare Records Component provides claims data on all Medicare beneficiaries included in the household and institutional samples.

Together, the major components of NMES II contain information to make national estimates of health status, use of health services, insurance coverage, expenditures, and sources of payment for the civilian population of the United States during the period from January 1 to December 31, 1987. Oversampling of population groups of special interest makes possible in-depth studies of these groups. The data base can also be used to assess the implications of recent or proposed changes in public or private health care benefits, methods of financing both health care and insurance coverage, various public and private subsidies for health care, and employee compensation arrangements.

Household Survey

Each family in the Household Survey was interviewed four times over a period of 16 months to obtain information about the family's health and health care during calendar year 1987. Baseline data on household composition, employment, and insurance were updated at each interview, and information was obtained on illnesses, use of health services, and health expenditures for each family member. A fifth round of interviews was conducted in the spring of 1988 to obtain information on the tax filing status and medical deductions of each household. A long-term care supplement was administered during the first and fourth rounds of interviewing to permit estimates of persons with functional disabilities and the use of formal services or long-term care provided by family or friends.

In order to verify and supplement the information provided by household re-

spondents, the household component of NMES II included two additional surveys. A Medical Provider Survey obtained information from the physicians, hospitals, outpatient clinics, emergency rooms, and home health agencies used by the household sample during 1987. A Health Insurance Plan Survey obtained information on the private insurance of persons in the household sample, including premiums paid by all sources and the provisions of coverage.

Survey of American Indians and Alaska Natives

This survey was conducted with the same data collection instruments and interview procedures as the Household Survey and covered the same reference period — calendar year 1987. SAIAN also included followup surveys to medical providers and health insurers. Consequently, the data can be used to make comparisons between American Indians and Alaska Natives eligible for care from the Indian Health Service and the general U.S. population with regard to issues such as health status, use of health services, and access to care. Information was obtained on services provided outside the Indian Health Service and on other sources of health care financing available for persons eligible for IHS care.

Institutional Population Component

The Institutional Population Component of NMES II included persons resident in or admitted to nursing and personal care homes and facilities for the mentally retarded at any time in calendar year 1987. This survey provides information on the functional status, use of services, and health expenditures of the institutionalized population. A Survey in Institutions collected data from facility administrators and designated staff on the characteristics of facilities and charges. A Survey of Next of Kin obtained data from the respondent's next of kin or other knowledgeable persons in the community on the financial status, insurance coverage, and personal history of the institutionalized person.

Survey Samples

All survey components were designed to provide statistically unbiased estimates. The Household Survey sample is representative of the civilian noninstitutionalized population of the United States in 1987. It is a stratified multistage area probability design with a total sample of roughly 35,000 individuals in 14,000 households who completed all rounds of data collection. Oversampling of the population subgroups of special policy interest was based on a separate screening interview conducted in the fall of 1986 with a sample of 36,000 addresses.

The Survey of American Indians and Alaska Natives adopted a multistage area probability sample design. It used an IHS constructed frame of counties with individuals eligible for services provided or supported by the Indian Health Service and living on or near federally recognized reservations or in Alaska. An initial screening interview was completed in approximately 13,700 dwelling units to identify the eligible sample, yielding 1990 responding households in round 1. Approximately 6,500 SAIAN respondents responded for their entire period of eligibility in 1987.

The institutional population sample was based on a three-stage probability design. The first two stages were used to select facilities; the final stage sampled facility residents as of January 1, 1987. These facilities were also used to obtain a sample of admissions between January 1, 1987, and December 31, 1987. Based on sampling specifications, the Institutional Population Component includes a total of 1,500 facilities, comprising 800 nursing homes and 700 facilities for the mentally retarded. Counting both residents and new admissions, this sample yielded approximately 10,100 persons, of whom 5,700 were in nursing homes and 4,400 were in facilities for the mentally retarded. The sample frame for facilities was derived from the 1986 Inventory of Long-Term Care Places.

Taken in conjunction, the NMES II surveys yield comprehensive, population-based information that will support studies of most population groups of policy interest, including those presently outside the scope of various public and private financing mechanisms. In contrast to information obtained from program or provider statistics, NMES II data can be used to analyze all public and private sources of coverage for health care services and out-of-pocket payments by individuals and families.

The Agency for Health Care Policy and Research sponsored the NMES II data collection activities. A substantial part of the support for the Survey of American Indians and Alaska Natives was provided by the Indian Health Service. The Health Care Financing Administration, the National Center for Health Statistics, and the Office of the Assistant Secretary for Planning and Evaluation provided extensive technical assistance during the development of the survey design and instruments. Interviews were conducted by the primary contractor, Westat, Inc., Rockville, MD and by NORC, University of Chicago; the Council of Energy Resource Tribes, Denver, CO; and Stephen R. Braund and Associates, Anchorage, AK. Data processing during the analysis stage of the project is being provided by Social & Scientific Systems, Inc., Bethesda, MD.

The data were collected under the authorities of the Public Health Service Act and are being edited and published in accordance with the confidentiality provisions of that act and those of the Privacy Act. Public use tapes from NMES II are being released on a continuous basis to ensure timely access to the data.

Additional information on NMES II is available from Daniel C. Walden, Ph.D., Director of the Division of Medical Expenditure Studies; Center for General Health Services Intramural Research, Agency for Health Care Policy and Research; Room 18-A-55, Parklawn Building; 5600 Fishers Lane; Rockville, MD 20857 (301/443-4836).

Health Care Coverage: Findings From the Survey of American Indians and Alaska Natives

Peter J. Cunningham and Claudia L. Schur

Federal funding of services to improve the health of American Indians and Alaska Natives has been an integral part of the Trust relationship between the Federal Government and the various American Indian and Alaska Native tribes. As a result, most American Indians and Alaska Natives living on or near reservations have access to health care through the Indian Health Service (IHS). In addition, American Indians and Alaska Natives can also obtain private health insurance—especially if offered through an employer—or be eligible for public insurance such as Medicare and Medicaid. However, little is known about this public and private health insurance coverage of American Indians and Alaska Natives.

Health insurance in addition to IHS coverage may be important for access to services outside the IHS system. Services provided directly in IHS facilities are not uniform across IHS service areas and therefore may not be available to some reservation-based Indians. In areas where no direct services are offered, the Indian Health Service provides contract services to people eligible for coverage. However, funding for contract care is limited and in some areas sufficient only for emergency cases (Smith, 1987; Office of Technology Assessment, 1986). Under these circumstances, additional coverage may enhance access to medical providers outside the Indian Health Service for conditions that are not life threatening.

The extent of other health care coverage among the IHS-eligible population also has implications for the resources available for IHS care. For some time, the Indian Health Service has sought reimbursement from other sources — including Medicare and Medicaid — for services provided in IHS facilities. The Indian Health Care Improvement Act Amendments of 1988 (P.L. 100-173), have enabled IHS to seek reimbursement from private health insurance companies as well. For services provided under the contract care program, the Indian Health Service is the residual payer and pays only that portion of the bill not paid by other public or private plans.

This report from the Survey of American Indians and Alaska Natives (SAIAN) of the 1987 National Medical Expenditure Survey (NMES) provides preliminary estimates of health insurance coverage of the population of American Indians and Alaska Natives living on or near reservations and eligible to receive services provided or supported by the Indian Health Service.[1,2] Comparisons of health insurance coverage are also made with the general U.S. population and population subgroups. The technical appendix to this report provides a more detailed description of the Indian Health Service and explains how the estimates were derived. The appendix also describes the sample and presents standard error information.

Private and Public Coverage

In 1987 over one-fourth of the SAIAN population had private health insurance, most of it employment related; over one-fifth had some type of public insurance, including 11.4 percent with Medicaid and 6.3 percent with Medicare (Table 1). Over half had no coverage except through the Indian Health Service.

Relative to the U.S. population as a whole, the SAIAN population was far less likely to have private insurance (Table 2). Rates of private insurance coverage were also considerably lower than for other minority groups who are consistently reported to have low rates of private coverage. Only 28.2 percent of the SAIAN population had private coverage, compared with 80.8 percent of

[1]The American Indian and Alaska Native population included in the NMES is a subset of the total U.S. population of American Indians and Alaska Natives. The target population for the Survey of American Indians and Alaska Natives lived on or near federally recognized Indian reservations or in Alaska tribal areas and was eligible for services provided or supported by the Indian Health Service. Thus, while the SAIAN population is in many ways similar to the total American Indian and Alaska Native population, the populations may differ in factors relevant to this report. In particular, many American Indians and Alaska Natives not included in this study were not eligible for the Indian Health Service, lived in areas farther away from federally recognized reservations, or lived in more urban areas than was the case for the SAIAN population.. The SAIAN population is described in detail in the technical appendix to this report.

[2]Eligibility for and coverage by the Indian Health Service in the context of this report refers to eligibility for all services provided or supported by the IHS. This encompasses services provided directly by the IHS or American Indian or Alaska Native tribal organizations and services supported by IHS under contracts with other providers.

Table 1. Types of health care coverage of American Indians and Alaska Natives in the SAIAN, United States, 1987

Type of coverage	SAIAN population (in thousands)	Percent
Total	885	100.0
IHS only	486	54.9
Any private insurance		
Employment-related	226	25.5
Other	23	*2.6
Any public coverage		
Medicaid	101	11.4
Medicare	56	6.3
Other	29	*3.3

*Relative standard error is greater than or equal to 30 percent.
Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Survey of American Indians and Alaska Natives, round 1.

whites, 52.9 percent of blacks and 50.1 percent of Hispanics. The SAIAN population had higher rates of public coverage than the total U.S. population (16.9 percent versus 10 percent), even when IHS coverage is excluded. Only blacks had higher rates of public coverage than the SAIAN population (25.1 percent versus 16.9 percent; the estimate for the Hispanic population is not statistically different from that for the SAIAN population).

Coverage by Selected Characteristics

In most cases, the insurance status of the SAIAN population varied little by age (Table 3). Those aged 19 to 24 were less likely to have private insurance than persons aged 25 to 64 years, as in the U.S. population as a whole (Short, 1990). Rates of public coverage were lowest for those aged 25 to 54 and highest for those aged 65 years or older, who were likely to be eligible for Medicare. Less than 12 percent of the latter group had IHS coverage only, by far the lowest of any age group. However, the estimate of approximately 85 percent of persons aged 65 or older who were covered by Medicare (estimates not shown) is substantially lower than that for the total U.S. population, where virtually all elderly are covered by Medicare. (This finding may reflect lower rates of employment among American Indians and Alaska Natives in the SAIAN. Eligibility for Medicare is conditioned on receipt of Social Security or railroad retirement benefits and therefore on employment history. Thus, lack of labor force attachment may account for this relatively low rate of Medicare enrollment.)

Private insurance coverage varied significantly by employment status. Almost half of adults employed full time and over one-third of those employed part time had private coverage, compared to 14.7 percent of adults not employed. In terms of coverage under public programs, 28.7 percent of those not employed had public coverage, compared to less than 5 percent of the employed. Perceived health status was clearly related to insurance coverage, though this may partially be due to other factors, such as employment or age. Persons in excellent health were over twice as likely to be covered by private insurance as persons in poor health. Over 40 percent of the latter were covered by public programs other than the Indian Health Service, compared to less than 15 percent of those in excellent or good health.

Table 2. Comparison of health care coverage of American Indians and Alaska Natives in the SAIAN with other population subgroups, United States, 1987

Population	Total (in thousands)	Private insurance	Public coverage only[a]	Uninsured/ IHS only
			Percent	
SAIAN[b]	885	28.2	16.9	54.9
United States	237,890	74.5	10.0	15.5
White	182,794	80.8	6.8	12.4
Black	28,356	52.9	25.1	22.0
Hispanic	18,752	50.1	18.3	31.5

[a]Public coverage other than IHS.
[b]American Indians and Alaska Natives living on or near reservations and eligible for IHS.
Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Household Survey and Survey of American Indians and Alaska Natives, round 1.

Table 3. Health care coverage by selected characteristics of American Indians and Alaska Natives in the SAIAN: Percent with private, public, and only IHS coverage, United States, 1987

Population characteristic	SAIAN population (in thousands)	Type of health care coverage		
		IHS only	Private	Public coverage only[a]
		Percent distribution		
Total[b]	885	54.9	28.2	16.9
Age in years				
Less than 6	130	60.5	21.8	17.7
6 to 18	261	55.4	28.6	16.0
19 to 24	89	66.7	18.2	15.1
25 to 54	297	56.7	34.4	8.9
55 to 64	53	53.9	31.1	15.0
65 or older	54	11.5	21.1	67.4
Sex				
Male	438	56.7	28.2	15.1
Female	447	53.2	28.2	18.6
Marital status[c]				
Never married	142	65.7	20.4	13.8
Married	290	50.9	36.5	12.6
Widowed	38	30.8	18.9	50.3
Separated, divorced	62	55.5	24.2	20.3
Employment status[c]				
Full time	209	49.7	46.9	3.3
Part time	70	54.9	36.0	9.2
Not employed	273	56.6	14.7	28.7
Health status				
Excellent	250	53.1	33.1	13.8
Good	368	56.8	29.2	14.1
Fair	133	53.6	18.3	28.1
Poor	22	40.8	*15.8	43.4
Usual source of care				
IHS or tribal facility	556	66.1	18.7	15.2
Other	246	27.6	49.6	22.9
None	79	59.5	27.9	12.6

[a]Public coverage other than IHS.
[b]Includes persons with unknown marital and health status and unknown usual source of care.
[c]Includes only persons 17 or older.
*Relative standard error is greater than or equal to 30 percent.
Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Survey of American Indians and Alaska Natives, round 1.

Over 66 percent who reported an IHS or tribal facility as their usual source of care had IHS coverage only. By comparison, among those with other providers as a usual source of care, almost half had private insurance and over one-fifth had public insurance. Among those without a usual source of care, almost 60 percent had IHS coverage only.

Coverage of Workers and Their Families

Table 4, which shows health insurance status of persons under 65 years of age in families where there is at least one working adult, compares persons in the SAIAN and in the total U.S. population who were most likely to have employment-related health insurance. Even when focusing on this subset of the population (slightly less than two-thirds of eligible SAIAN respondents), rates of employment-related coverage were almost half those for the U.S. population similarly defined (36.2 percent versus 75.4 percent).

At least some of this disparity is attributable to the differences in types of employment in the SAIAN population. Although the distribution by full-time versus part-time status is similar for the SAIAN and the U.S. population, that across wage and firm size categories differs substantially. The SAIAN population was more likely than the U.S. population as a whole to live in households where working adults had lower paying jobs and were employed in firms of 25 or fewer workers. Previous research has shown that persons earning comparatively low wages or working in small firms are less likely to be offered health insurance as a fringe benefit (Monheit and others, 1985).

Table 4. Health insurance status of working adults and their spouses and children: Comparison of American Indians and Alaska Natives in the SAIAN and U.S. population by selected employment characteristics, United States, 1987

Persons under 65 in families with at least one employed adult[a]	SAIAN population			U.S. population		
	Population (in thousands)	Percent distribution	Employment-related private insurance	Population (in thousands)	Percent distribution	Employment-related private insurance
Total[b]	578	100.00	36.2	180,524	100.00	75.4
Employment status of working adult						
Full time	426	73.7	41.5	133,068	74.4	81.9
Part time	87	15.1	19.6	22,248	12.4	59.7
Self-employed	65	11.3	*23.4	23,509	13.1	54.7
Size of establishment employing adult						
Fewer than 10 workers	221	38.2	26.7	46,940	27.9	56.5
10 to 25 workers	136	23.5	35.3	27,273	16.2	74.0
26 to 100 workers	110	19.1	39.9	34,653	20.6	82.4
101 to 500 workers	73	12.7	49.1	30,956	18.4	88.3
More than 500 workers	38	6.5	59.3	28,201	16.8	89.4
Hourly wage of working adult[c]						
$3.50 or less	59	11.6	*15.1	9,228	5.9	53.9
$3.51 to $5.00	119	23.3	24.1	22,746	14.6	56.3
$5.01 to $10.00	226	44.1	41.2	61,112	39.2	78.5
$10.01 to $15.00	77	15.0	55.0	36,373	23.4	90.3
Over $15.00	31	6.1	66.7	26,304	16.9	91.3

[a]Working adults are classified according to their own employment characteristics. Nonworking spouses and children are classified according to the characteristics of the worker. Children of two parents are classified according to the characteristics of their father.

[b]Includes persons in families with unknown employment status, establishment size, or wage not shown below.

[c]Excludes families with self-employed adult.

*Relative standard error is greater than or equal to 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Household Survey and Survey of American Indians and Alaska Natives, round 1.

Moreover, even among persons in the same employment categories, rates of coverage by employment-related plans were significantly lower. For full-time workers and their families, the SAIAN population was half as likely to be covered by a job-related plan as those in the population as a whole. Of persons in families where the working adult earned $5.00 or less per hour, less than one-fourth of the SAIAN population was covered by an employment-related plan compared to over half of the total U.S. population. A similar pattern was found even in the largest firms; almost 90 percent of working adults and their families in the U.S. population as a whole received health insurance as a fringe benefit, while the comparable figure for the SAIAN population was less than 60 percent.

Summary and Issues for Research

In 1987, approximately 55 percent of the SAIAN population had no health care coverage except through the Indian Health Service. The remaining 45 percent included 28.2 percent with private insurance, most of it employment-related, and 16.9 percent with public coverage. These rates of private coverage were substantially lower than for other segments of the U.S. population, including other minorities such as blacks and Hispanics.

Rates of public coverage other than through the Indian Health Service were somewhat higher than for the overall U.S. population but lower than the public coverage of blacks.

The lower rates of private coverage compared to the U.S. population in part reflect the socioeconomic status of American Indians and Alaska Natives. The 1980 census indicated that American Indians and Alaska Natives have much lower levels of education, lower rates of employment, and lower incomes than U.S. whites (Snipp, 1989; Sandefur and Sakamoto, 1988). All of these factors would greatly restrict the ability to obtain private insurance.

Even for American Indians and Alaska Natives who are part of the labor force, NMES findings indicate that coverage by employment-related insurance is much less than for the rest of the U.S. population, regardless of wage rate or the size of their employer's workforce. Part of this discrepancy in employment-related coverage may be due to the fact that some employees prefer not to have private health insurance since they are already covered by the Indian Health Service, especially if they would have to pay for part of the premium. The extent to which private health insurance is offered by employers and accepted or declined is unknown and will be the subject of future NMES reports.

In sum, these findings indicate that the majority of American Indians and Alaska Natives eligible for the Indian Health Service would have to pay out-of-pocket for health care from other providers. However, a number do have other sources of health insurance available to them. Future studies will examine health insurance coverage with respect to the actual use of health services by the IHS-eligible population. Particular points of interest will be the effects of coverage on the use of health care outside the IHS system and the extent to which other coverage provides sources of payment for contract care and other care not delivered by the Indian Health Service.

Technical Appendix

A Summary of the Provision of IHS Care

Since 1955, the Indian Health Service within the U.S. Public Health Service has had the responsibility for providing comprehensive health services free of charge to American Indians and Alaska Natives. The population eligible for IHS-provided or supported services consists of persons of American Indian descent belonging to the community served by the local facilities and programs and Alaska Natives resident in Alaska.

The delivery of IHS services is managed by local administrative units called service units. In 1987, there were 127 service units organized around geographically defined areas, usually single reservations in the continental United States or a population concentration in Alaska. Some service units covered a number of small reservations, while some large reservations were divided into several service units. Service units were grouped into 12 larger management jurisdictions called Area Offices. The criteria for grouping service units into Area Offices are based on cultural, demographic, and geographic factors.

At the time of the survey, IHS-funded care was provided in several ways. First, the Indian Health Service directly operated a network of inpatient and ambulatory care facilities in IHS service units across the continental United States and in Alaska. It also provided funding for services and facilities managed by tribes, allowable under the Indian Self-Determination Act of 1975 (P.L. 93-638), as amended. Together, the Indian Health Service and the tribes operated 51 hospitals and over 400 outpatient facilities. Outpatient facilities include health centers and health stations. Health centers are relatively comprehensive outpatient facilities that are open at least 40 hours per week; health stations are available fewer than 40 hours per week and/or offer less comprehensive care.

IHS-funded services were also provided through contracts with non-IHS providers. These usually involved specialty services and inpatient care not available through IHS hospitals and clinics. Also, since IHS did not have hospitals in all service units, inpatient services in these areas were purchased from non-IHS providers through the contract care program. The eligibility requirements for contract care were somewhat more restrictive than those for direct care, including residency on or near a Federal reservation. (For a more extensive description, see Indian Health Service, 1988.)

Data Sources and Methods of Estimation

The data in this report were obtained in the first round of interviews from the Survey of American Indians and Alaska Natives as well as from the Household Component of the 1987 National Medical Expenditure Survey. The SAIAN is comprised of a representative sample of American Indian and Alaska Native households where at least one person was eligible to receive medical care from the Indian Health Service. Approximately 12 percent of the sampled persons were ineligible for IHS services. These individuals resided in households with IHS-eligible individuals. Field operations for the entire SAIAN component consisted of three core interviews conducted at 5- to 6-month intervals. The findings in this report are based on data collected in round 1 of the SAIAN.

The design of the NMES Household Survey of the noninstitutionalized civilian population allows for comparisons of health care utilization, expenditures, sources of payment and health insurance coverage with American Indians and Alaska Natives in the SAIAN. The Household Survey was fielded in four interview rounds at approximately 4-month intervals, with a fifth short telephone interview at the end. As for the SAIAN, the findings presented in this report for the Household Survey are based on data collected in the first round of interviews. For a detailed description of data collection procedures and instruments used in SAIAN and the Household Survey, see Edwards and Berlin (1989).

Derivation of Insurance Status Information

The procedure for identifying insurance status was similar for the SAIAN and the Household Survey. Respondents were asked if anyone in the family was covered by any of the following at the time of the interview:

Medicare. A federally financed health insurance plan for the elderly, persons receiving Social Security disability payments, and most persons with end-stage renal disease. Medicare Part A is provided automatically to persons eligible for Social Security and provides hospital insurance. Medicare Part B provides supplementary medical insurance that pays for medical expenses and may be purchased for a monthly premium.

CHAMPUS/CHAMPVA. Covers retired members of the Uniformed Services and the spouses and children of active duty, retired, and deceased members. Spouses and children of certain deceased or disabled veterans are covered by CHAMPVA if they are not eligible for CHAMPUS or Medicare.

Medicaid and other public assistance programs. Medicaid is a means-tested government program jointly financed by Federal and State funds that provides health care to the eligible poor. Program eligibility criteria vary significantly by State. However, all persons receiving financial assistance under the Aid to Families with Dependent Children (AFDC) program and most of those receiving support from the Supplemental Security Income (SSI) program must be included. Other public assistance programs refer mainly to State and local medical assistance programs that are not federally subsidized.

Private health insurance. Any insurance for hospital, surgical, or medical expenditures other than government funded or sponsored plans, including prepaid health plans such as health maintenance organizations, but excluding extra cash coverage (small supplemental payments in the event of hospitalization), medical benefits linked to specific diseases such as stroke or cancer (dread disease plans), and casualty benefits.

If a household reported any private health insurance as defined above, all of the family's plans were enumerated. These plans could include those with policyholders who were not a household member, as when children are insured by a divorced parent. The source of each plan (whether an employer or business, union or other group, or insurance company) was specifically identified, as was the policyholder. Finally, the interviewer ascertained which members of the household were covered by each plan. The privately insured and the source or sources of their private coverage are defined in this report from the plans (if any) reported as covering each person. The uninsured are defined as persons not covered by Medicare, CHAMPUS/CHAMPVA, Medicaid or other State or local assistance, or private insurance during the round 1 reference period.

As more information from other parts of SAIAN and subsequent interview rounds becomes available, it will be used to correct missing or inconsistent information. In particular, private coverage variables in SAIAN will

be edited against the reporting of private insurance as a source of payment for medical expenses. Also, the data in this report do not reflect corrections made by SAIAN respondents in rounds 2 and 3 and by Household Survey respondents in rounds 2 and 4, when they were given the opportunity to correct the insurance coverage recorded for previous rounds and to supply missing information. Finally, it should be noted that these data were generally reported by a single household respondent, who may not have been the most knowledgeable source for other family members.

Missing Insurance Data

The round 1 health insurance data for SAIAN and the Household Survey have been edited for missing or inconsistent survey responses. Editing for the Household Survey has been described in previous reports (Short, Monheit, and Beauregard, 1989; Short, 1990). SAIAN insurance data were edited as follows:

Medicare. The Medicare status of approximately 100 persons was missing. About 10 persons who were 65 or older were assigned Medicare according to whether or not they reported Social Security or railroad retirement income. The remaining persons under age 65 were not assigned Medicare coverage unless they reported Social Security disability benefits or Medicare as a source of payment for their care in round 1.

Medicaid. The Medicaid status of approximately 60 persons with missing data was inferred from family relationships, receipt of SSI and AFDC, whether or not Medicaid was reported as a source of payment for a person's medical expenses, employment information, and poverty status of persons residing in the dwelling at the screening interview. Medicaid coverage was assigned to 111 persons who were not identified as having Medicaid but who reported, elsewhere in the interview, having AFDC or SSI and that Medicaid paid for their care. Approximately 45 persons were assumed not to have coverage who did not present a valid Medicaid card, did not report AFDC or SSI, and did not identify Medicaid as a payer for care reported in round 1.

Other public assistance. For approximately 40 persons, data missing were with respect to coverage from some public assistance program other than Medicaid. These persons are assumed to have no insurance or to be covered by the Indian Health Service only. They were not counted as receiving public assistance.

CHAMPUS/CHAMPVA. Fourteen persons were missing data on CHAMPUS/CHAMPVA coverage. This coverage was assigned according to the military service and military retirement income of family members.

Private health insurance. For approximately 10 families, information about whether or not they had a private health insurance plan was missing. They were assigned private health insurance status on the basis of reported public coverage (if any), sources of payment for medical expenses incurred by family members, and employment information. Among families reporting private insurance in round 1, responses with respect to the coverage of each family member under each plan were obtained for 92 percent of the roughly 2,800 combinations of persons and plans. Coverage in the remaining instances was based on family relationships, the other family members covered by the plan, and whether the interviewer recorded the person as privately insured.

Population Characteristics

Ethnic/racial background in the Household Survey. Classification by ethnic/racial background in the Household Survey was based on information reported for each household member. Respondents were asked if their racial background was best described as American Indian; Alaska Native; Asian or Pacific Islander; black; white; or other. They were also asked if their main national origin or ancestry was among one of the following:

- Puerto Rican
- Cuban
- Mexican, Mexicano, Mexican American, or Chicano
- Other Latin American
- Other Spanish

This grouping was used to classify as Hispanic all persons who claimed main national origin or ancestry in one of these Hispanic groups, regardless of racial background.

Relation to employed adult. For purposes of this report, each person in SAIAN and in the Household Survey was assigned to one of three categories: working adult; the nonworking spouse or dependent child of a working adult; and all others. Dependent children were defined as children 18 or younger. The residual category consists of all persons with no employed adult in the immediate family as well as any relative of a working adult who may have resided in the household other than spouses or dependent children.

Working adult. Persons were considered working adults if they were 19 years of age or older, had a job for pay, owned a business, or worked without pay in a family business for all or part of the period between January

1, 1987, and the round 1 NMES interview date. Working adults were considered full-time workers if they usually worked 35 hours or more a week at their main job and part-time workers if they usually worked fewer than 35 hours a week at their main job.

Sample Design and Standard Error Estimates

SAIAN

The 1987 Survey of American Indians and Alaska Natives was designed to produce statistically unbiased estimates that are representative of the civilian noninstitutionalized population eligible for the Indian Health Service and living on or near reservations. The survey adopted a multistage area probability sample design using an IHS-constructed frame of counties with individuals eligible for IHS services and living on or near reservations. The sampling frame initially consisted of 482 counties in the United States served by the Indian Health Service, with an estimated population of 1,013,000 projected for 1987. For reasons of cost efficiency, the frame was truncated to exclude counties with less than 400 American Indians or Alaska Natives. The truncated frame included 97.2 percent of the population of interest.

Twenty-four eligible counties were paired with larger neighboring counties, yielding 274 primary sampling units (PSUs) for sample selection. Within each sample PSU, SAIAN area segments were created. Segments were defined as 1980 census enumeration districts or individual blocks or block combinations. Again, for cost efficiency, the SAIAN sample frame was further restricted by excluding segments with less than 0.5 percent population representation of American Indians and Alaska Natives. Approximately 95 percent of the American Indian and Alaska Native population remained eligible for sample selection when the effects of PSU and segment frame truncation were considered jointly.

In early 1987, an initial screening interview was completed in approximately 13,700 dwelling units to facilitate identification of the eligible sample. Data were obtained for about 87.5 percent of eligible sampled households in the first round of data collection, consisting of 1,990 households and 6,557 civilian noninstitutionalized persons eligible for care through the Indian Health Service. For a detailed description of the survey design, sampling, estimation, and weight adjustments, see Cohen, DiGaetano, and Waksberg (1988).

Household Survey

The NMES Household Survey was designed to produce statistically unbiased national estimates that are representative of the civilian noninstitutionalized population of the United States. To this end, the Household Survey used the national multistage area samples of Westat, Inc. and NORC.

An initial screening interview was conducted in the fall of 1986 to facilitate oversampling of population subgroups of particular policy concern (blacks, Hispanics, the elderly, the poor and near poor, and those with difficulties in activities of daily living). Screening interviews were completed in approximately 28,700 dwelling units. Sampling specifications required the selection of about 17,500 households for the first core household interview. Data were obtained for about 85.4 percent of eligible households in the first interview and 80 percent by the fourth interview. Approximately 6 percent of all survey participants provided data for only some of the time in which they were eligible to respond. For a detailed description of the survey design, and of sampling, estimation, and adjustment methods, including weighting for nonresponse and poststratification, see Cohen, DiGaetano, and Waksberg (in process).

Reliability of Estimates

Since the statistics presented in this report are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken. This potential difference between sample results and a complete count is the sampling error of the estimate.

The chance that an estimate from the sample would differ from a complete census by less than one standard error is about 68 out of 100. The chance that the difference between the sample estimate and a complete census would be less than twice the standard error is about 95 out of 100.

Tests of statistical significance were used to determine whether differences between estimates exist at specified levels of confidence or whether they simply occurred by chance. Differences were tested using Z-scores having asymptotic normal properties, based on the rounded figures at the 0.05 level of significance. Unless otherwise noted, only statistically significant differences between estimates are discussed in the text.

Rounding

Estimates presented in the tables have been rounded to the nearest 0.1 percent or to the nearest thousand. The

rounded estimates, including those underlying the standard errors, will not always add to 100 or the full total.

Standard Errors

Standard errors for the statistics in this report were approximated, by interpolation where necessary, using a curve smoothing procedure developed by Cohen (1979). The statistical tests in this report, however, are based on direct estimates of standard errors using the Taylor series linearization method.

Relative standard errors of totals. Where the statistics of interest are total estimates *(T)* of the population, an estimate of the standard error, *SE*, can be obtained by multiplying the relative standard error, *RSE(T)*, expressed as a percent of the respective total *(T)*, by *T* and then dividing by 100. Thus,

$$SE(T) = \frac{T(RSE(T))}{100}$$

For estimated population totals for individuals, the approximate relative standard errors expressed as percents are presented in Tables I and II .

- Example — A rounded estimate of 238,000 females in the SAIAN population with only IHS health care coverage (447,000 x 0.532, Table 3) has a relative standard error of between 7.1 and 5.1 (Table I) or, by interpolation, a relative standard error of about 5.3 percent. The standard error of this estimate, then, is

$$SE(T) = \frac{238{,}000(5.3)}{100} = 12{,}614$$

Direct standard error estimates. When the statistic of interest is expressed as a percent of the number of persons, direct estimates of standard errors have been derived for ease of calculation. For the estimated percents of the SAIAN population and of the total U.S. population by selected characteristics, approximate standard errors expressed as a percent are as shown in Tables III and IV.

Table I. Approximate relative standard errors for the SAIAN population

Estimated population totals for individuals (in thousands)	Relative standard error (in percent)
10	20.2
25	13.0
50	9.5
100	7.1
250	5.1
500	4.3
885	3.9

Table II. Approximate relative standard errors for the total U.S. population

Estimated population totals for individuals (in thousands)	Relative standard error (in percent)
1,000	9.7
2,500	6.6
5,000	5.2
10,000	4.3
25,000	3.6
50,000	3.4
100,000	3.3
200,000	3.2
240,000	3.2

Table III. Approximate direct standard errors for the SAIAN population

Persons in the base of the percent (in thousands)	Estimated percent						
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
10	2.8	4.3	6.0	8.0	9.1	9.8	10.0
25	1.8	2.7	3.8	5.0	5.8	6.2	6.3
50	1.2	1.9	2.7	3.6	4.1	4.4	4.5
100	0.9	1.4	1.9	2.5	2.9	3.1	3.1
250	0.6	0.9	1.2	1.6	1.8	2.0	2.0
500	0.4	0.6	0.8	1.1	1.3	1.4	1.4
885	0.3	0.5	0.6	0.8	1.0	1.0	1.1

- Example — The estimate of 14.7 percent of the SAIAN population 17 years or older and not employed but with private health care coverage is based on a population total of 273,000 (Table 3). This estimate, by interpolation, has a standard error of approximately 1.4 percent (Table III).

Table IV. Approximate direct standard errors for the total U.S. population

Persons in the base of the percent (in thousands)	Estimated percent						
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
1,000	1.3	2.0	2.8	3.7	4.2	4.5	4.6
2,500	0.8	1.3	1.8	2.3	2.7	2.9	2.9
5,000	0.6	0.9	1.2	1.7	1.9	2.0	2.1
10,000	0.4	0.6	0.9	1.2	1.3	1.4	1.5
25,000	0.3	0.4	0.6	0.7	0.8	0.9	0.9
50,000	0.2	0.3	0.4	0.5	0.6	0.6	0.7
100,000	0.1	0.2	0.3	0.4	0.4	0.5	0.5
200,000	0.1	0.1	0.2	0.3	0.3	0.3	0.3
240,000	0.1	0.1	0.2	0.2	0.3	0.3	0.3

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50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. AHCPR 91-29	2.	3. Recipient's Accession No. PB91-220244

4. Title and Subtitle
Health Care Coverage: Findings From the Survey of American Indians and Alaska Natives

5. Report Date July 1991

6.

7. Author(s)
P. Cunningham & C. Schur

8. Performing Organization Rept. No.

9. Performing Organization Name and Address
DHHS, PHS, Agency for Health Care Policy and Research (AHCPR)
Center for Research Dissemination and Liaison
18-12 Parklawn Building, Rockville, MD 20857
Tel: 301/443-4100

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G) N/A

12. Sponsoring Organization Name and Address
same as above

13. Type of Report & Period Covered
inhouse

14.

15. Supplementary Notes
National Medical Expenditure Survey Research Findings 8

AHCPR Pub. No. 91-0027

16. Abstract (Limit: 200 words) This report presents estimates from the 1987 National Medical Expenditure Survey (NMES) of private and public health insurance coverage of American Indians and Alaska Natives eligible for services provided or supported by the Indian Health Service (IHS) and living on or near reservations. Data from the first round of this Survey of American Indians and Alaska Natives (SAIAN) show that 45 percent had health insurance in addition to IHS coverage, including 28 percent with private insurance and 16.9 percent with public coverage. Data from round 1 of the NMES Household Survey are used for comparison between the SAIAN population and the total U.S. population. These findings show the SAIAN population with much lower rates of private insurance than the U.S. population but slightly higher rates of public coverage other than IHS. Rates of private health insurance coverage among the SAIAN population were considerably higher for those employed full time and for those who reported their usual source of care as somewhere other than an IHS or tribal facility. Rates of public coverage were particularly high for the elderly, the widowed and unemployed, and those in fair or poor health.

17. Document Analysis a. Descriptors
AHCPR publication of research findings does not necessarily represent approval or official endorsement by the Agency for Health Care Policy and Research or the U.S. Department of Health and Human Services.

b. Identifiers/Open-Ended Terms

National Medical Expenditure Survey; American Indians; Alaska Natives; health services research; health insurance

c. COSATI Field/Group

18. Availability Statement:	19. Security Class (This Report)	21. No. of Pages
Releasable to the public. Available from the National Technical Information Service Springfield, VA 22161 Tel: 703/487-4650	unclassified	13
	20. Security Class (This Page) unclassified	22. Price

(See ANSI-Z39.18) *See Instructions on Reverse*

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

**U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES**

Public Health Service
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Rockville, Maryland 20857

AHCPR Pub. No. 91–0027
July 1991